

Thipwara Chuaycharoensuk 2010: A Survey of Susceptibility/Resistance Status of *Aedes* Mosquito Vectors in Thailand to Synthetic Pyrethroids. Master of Science (Entomology), Major Field: Entomology, Department of Entomology. Thesis Advisor: Assistant Professor Apichai Daorai, Ph.D. 48 pages.

In this study, 32 *Aedes aegypti* strains from 29 provinces across Thailand were subject to bioassay for their susceptibility to three commonly used synthetic pyrethroids; permethrin, deltamethrin and lambda-cyhalothrin. Twelve strains of *Ae. aegypti* were resistant to permethrin, ranging from 43.54% mortality (Lampang strain) to 78% mortality (Chonburi strain and Prachuap Khiri Khan strain). The other 20 strains were possible candidates to be resistant (81.50%-96% mortality). Although, several strains of *Ae. aegypti* were found susceptible to deltamethrin, incipient resistance in this species was also observed in 11 strains. In contrast, all strains of *Ae. aegypti* were found susceptible to lambda-cyhalothrin. The study was also conducted on 5 strains of *Aedes albopictus* collected from the southern provinces. Only one strain was found resistant to permethrin (Sadao strain: 78% mortality). The other 4 strains were possible to be resistant to permethrin (84%-96% mortality). All strains of *Ae. albopictus* were susceptible to deltamethrin and lambda-cyhalothrin.

Key word: Pyrethroids, *Aedes aegypti*, *Aedes albopictus*, Resistance

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